

USSR

NEKRASOV, M. M., et al, Izvestiya VUZov SSSR--Radioelektronika, No 5, 1970, pp 608-613

function of the frequency indicates that a change in the load capacitance causes a change in the output signal amplitude as well as a large shift in the resonant frequency. These devices can thus be used in measurement devices involving sensors with a resonant circuit.

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1/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--LEAD TELLURIDE AND MERCURY TELLURIDE SYSTEM -U-
AUTHOR--(03)-VANYARKHO, V.G., ZLOMANOV, V.P., NOVOSELOVA, A.V.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 133-4
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--EUTECTIC MIXTURE, SOLID SOLUTION, PHASE ANALYSIS, X RAY
DIFFRACTION ANALYSIS, ELECTROMOTIVE FORCE, LEAD COMPOUND, MERCURY
COMPOUND, TELLURIUM COMPOUND, CRYSTALLIZATION, SOLID SOLUTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1988/0616 STEP NO--UR/0363/70/006/001/0133/0134
CIRC ACCESSION NO--AP0105598
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0105598

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PBTE-HGTE SYSTEM WAS STUDIED BY DTA, X RAY DIFFRACTION, AND MICROSTRUCTURAL ANAL., AS WELL AS BY THE MEASUREMENT OF THE MICROHARDNESS AND THE THERMAL EMF. AS A FUNCTION OF COMPN. TWO SERIES OF SAMPLES OF THE FOLLOWING COMPNS. WERE PREPD.: 100-90 MOLE PERCENT PBTE AT EVERY 2 MOLE PERCENT, AND AFTER THAT, OVER THE ENTIRE COMPOSITIONAL RANGE AT EVERY 5 MOLE PERCENT. THE SAMPLES OF THE 1ST SERIES WERE REMELTED WITH VIBRATIONAL AGITATION AND WERE ANNEALED AT 560DEGREES FOR 1100 HR. THE SAMPLES OF THE 2ND SERIES WERE CRUSHED (TO 250 MESH) AFTER SMELTING, THEN PLACED INTO EVACUATED QUARTZ AMPULS AND IMMEDIATELY BEFORE THE HOMOGENIZATION ANNEALING WERE HEATED TO A TEMP. WHICH WAS 50DEGREES HIGHER THAN THE TEMP. OF THE EUTECTIC. THE 2 PROBE METHOD WAS USED TO DET. THE DEPENDENCE OF THERMAL EMF. ON THE COMPN. NO LINES CORRESPONDING TO THE INITIAL COMPONENTS WERE OBSD. ON THE X RAY DIFFRACTION PATTERNS OF OYNTHESIZED PBTE AND HGTE. THE UNIT CELL PARAMETERS WERE DETD. BY THE EXTRAPOLATION FUNCTION METHOD AND ARE ALPHA EQUALS 6.450 ANGSTROM FOR HGTE AND ALPHA EQUALS 6.458 ANGSTROM FOR PBTE. THE PBTE-HGTE SYSTEM IS A QUASIBINARY SECTION OF THE TERNARY PB-HG-TE SYSTEM, AND IT INTERSECTS 2 FIELDS OF PRIMARY CRYSTN.: THAT OF THE SOLID SOLN. OF HGTE IN PBTE (ALPHA PHASE), AND THAT OF THE HGTE BASED SOLID SOLN. (BETA PHASE) AND THE SEGREGATION REGION. THE PRIMARY CRYSTN. OF ALPHA AND BETA SOLID SOLNS. TERMINATES AT THE EUTECTIC TEMP 605DEGREES. THE REGION OF ALPHA SOLID SOLN EXTENDS TO 5 MOLE PERCENT HGTE.

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1/2 010 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--HIGH TEMPERATURE MODIFICATIONS OF GERMANIUM MONOSULFIDE AND
MONOSELENIDE -U-
AUTHOR-(03)-KARBANOV, S.G., ZLOMANOV, V.P., UKRAYNSKIY, YU.M.
COUNTRY OF INFO--USSR
SOURCE--IZV AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(1), 125-6
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--X RAY DIFFRACTION ANALYSIS, QUARTZ, HIGH TEMPERATURE,
GERMANIUM SULFIDE, SELENIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/0072 STEP NO--UR/0363/70/006/000/0125/0126
CIRC ACCESSION NO--AP0054869
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PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0054869

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRESENT WORK WAS UNDERTAKEN TO STUDY THE PHASE COMPN. OF GES AND GESE AT 25-600DEGREES. SAMPLES OF STOICHOMETRIC COMPN. WERE PREPD. FROM THE ELEMENTS BY MELTING IN EVACUATED QUARTZ AMPULS AT 1000DEGREES BY USING VIBRATION AGITATION. THE LATTICE PARAMETERS WERE DETD. BY X RAY DIFFRACTION. UPON HEATING TO 590DEGREES THERMAL EXPANSION OF THE CRYSTAL LATTICE OCCURS. HEXAGONAL PHASES OF GES AND GESE ARE STABLE AT TEMPS. GREATER THAN 590DEGREES. THESE HIGH TEMP. PHASES OF THE 2 COMPOS. BELONG TO SPACE GROUP, D PRIME6 SUB6- C6 SUB3 2.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--PRESSURE, TEMPERATURE, COMPOSITION PHASE DIAGRAMS OF GERMANIUM AND
SULFUR, GERMANIUM AND SELENIUM, AND GERMANIUM AND TELLURIUM SYSTEMS -U-
AUTHOR--KARBANOV, S.G., ZLOMANOV, V.P., NOVOSELOVA, A.V.
COUNTRY OF INFO--USSR
SOURCE--VESTN. MOSK. UNIV., KHIM. 1970, 11(1), 51-5
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--PHASE DIAGRAM, VAPOR PRESSURE, THERMAL EFFECT, GERMANIUM,
SULFUR, SELENIUM, TELLURIUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/0612 STEP NO--UR/0189/70/011/001/0051/0055
CIRC ACCESSION NO--AP0107209
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11SEP70

ARC ACCESSION NO--AP0107209

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE TOTAL PRESSURE WAS DETD. AS A
FUNCTION OF TEMP. FOR THE 3 PHASE EQUIL. IN THE GE AND S, GE AND SE, AND
GE AND TE SYSTEMS. THE COORDINATES FOR THE CHARACTERISTIC POINTS (MAX.
TEMP., MAX. PRESSURE) ARE TABULATED. THE DIAGRAMS CAN BE USED TO DFT.
THE REQUIRED TEMP. AND PRESSURE RANGE WITHIN WHICH THE COMPN. OF THE
PHASES CAN BE CONTROLLED.

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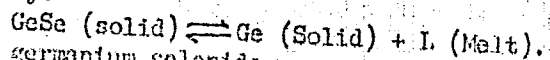
UDC 546.289+546.23

KARBANOV, S. G., STATNOVA, YE. A., ZLOMANOV, V. P., and NOVGSELOVA, A. V.,
Chair of Inorganic Chemistry

"Study of the System Germanium-Selenium in the Proximity of Germanium Mono-
selenide and the Growth of Its Monocrystals"

Moscow, Vestnik Moskovskogo Universiteta, Vol 13, No 5, Sep-Oct 72, pp 531-534

Abstract: The system Ge-Se has been studied by directed crystallization in the
composition range 49.99-51.00% Se. Germanium monoselenide has been found to
melt incongruently:



Monocrystals of germanium selenide were grown by the sublimation method in a
closed system with movement of the ampule and under static conditions. Follow-
ing parameters were obtained for the elementary nucleus by x-ray analysis:
 $a = 4.42 \pm 0.02$, $b = 3.87 \pm 0.02$, and $c = 10.85 \pm 0.05$ Å.

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1/2 007 UNCLASSIFIED
TITLE--ARENESULFONYLAMIDES. XXXV. PREPARATION OF AROMATIC ALDEHYDES AND
KETONES -U- PROCESSING DATE--30OCT70
AUTHOR--(02)--KREMLEV, M.M., ZLOTCHENKO, S.I. **Z**
COUNTRY OF INFO--USSR
SOURCE--ZH. ORG. KHIM. 1970, 6(4), 793-4
DATE PUBLISHED--70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SULFONAMIDE, ALDEHYDE, AROMATIC KETONE, ORGANIC SYNTHESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1992 STEP NO--UR/0366/70/006/004/0793/0794
CIRC ACCESSION NO--AP0125581
UNCLASSIFIED

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PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125581

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CONVERSION WAS CARRIED OUT OF RCH SUB2 R PRIME1 TO RCOR PRIME1. E.G. PHME, PHSO SUB2 NHNA, AND PHSO SUB2 NCL SUB2 WERE REFLUXED IN PHCL TO GIVE PHCH:NSO SUB2 PH (1), PHSO SUB2 NH SUB2, AND NACL. THE TREATMENT OF 1 WITH WATER GAVE (34.6PERCENT) PHCOPH AND PHSO SUB2 NH SUB2. OTHER RCOR PRIME1 WERE PREPD. ANALGGGUSLY IN 24.5-78.9PERCENT YIELDS (R AND R PRIME1 GIVEN): 2,MEC SUB6 H SUB4, H; 3,MEC SUB6 H SUB4, H; 4,MEC SUB6 H SUB4, H; 2,4,ME SUB2 C SUB6 H SUB3, H; 3,5,ME SUB2 C SUB6 H SUB3, H; 4,ISO,PRC SUB6 H SUB4, H; 2,NAPHTHYL, H; PHCHME, ME; PH, ME. ALL RCOR PRIME1 (R PRIME1 EQUALS H) WERE OXIDIZED WITH AIR TO THE CORRESPONDING ACIDS; 2,4,DINITROPHENYL-HYDRAZONES OF THESE COMPS. WERE ALSO PREPD.

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UDC 621.43

ZLOTIN, G. N. and PRIKHOD'KO, M. S., Candidates of Technical Science, and
MAKAROV, A. A., Graduate Student, Volgograd Polytechnical Institute

"Production of Inert Gases from Engine Exhaust Gases"

Izvestiya Vysshikh Uchebnykh Zavedeniy, Mashinostroyeniye, No 11, 1971,
pp 111-115.

ABSTRACT: This article presents experimental data from studies of a method of producing inert gas media from diesel exhaust gas, plus several calculation dependences characteristic for the method and a comparison of calculated and experimental data. The method is based on direct burning of liquid fuel in a stream of diesel exhaust gases. The operating process involves two stage combustion of the fuel. The first stage is evaporation of the fuel in a four chamber, followed by flame burning of the gaseous products as they mix with a highly vortexed stream of diesel exhaust gases. The study showed the genuine possibility of production of an inert gas medium by this method. The calculation method developed produces results allowing it to be used for further study of the process.

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G.N. ZLOTIN

Acc. Nr.: AP0042570

Ref. Code: UR0293

JPRS 50162

Study of Geoactive Corpuscles and Photoelectrons

(Abstract: "Study of Geoactive Corpuscles and Photoelectrons on the 'Kosmos-261' Satellite," by A. D. Bolyunova, M. L. Bragin, Yu. I. Gal'perin, V. A. Gladyshev, N. V. Dzhordzhio, G. N. Zlotin, I. N. Kiknadze, R. A. Kovrazhkin, T. M. Mulyarchik, Yu. N. Ponomarev, V. V. Temnyy, N. I. Fedorova, Yu. P. Shilyayev, F. K. Shuyaskaya and R. V. Shulenina; Moscow, Kosmicheskiye Issledovaniya, Vol VIII, No 1, 1970, pp 104-136)

The artificial earth satellite "Kosmos-261" was used in a study of low-energy geoactive corpuscles and fresh photoelectrons and their interaction with the earth's upper atmosphere. The satellite was launched on 30 December 1968. Orbital inclination to the equator was 71°, so that for a relatively long time it moved almost along a tangent along the auroral zone over the Soviet Far North, making it possible to increase the volume of simultaneous measurements from the satellite and from ground observatories. The storage regime made it possible to extend continuous measurements for periods of several revolutions, including passes over the auroral zones in the Arctic and Antarctic and over the polar caps as far as invariant geomagnetic latitudes 82-85°. During the initial period the satellite apogee was at 670 km and perigee was at 217 km, but it finally

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burnt up upon entering into the dense layers of the atmosphere on 12 February 1969 after making 857 revolutions of the earth. The experiment lasted 53 days. The orbit was such that in the northern hemisphere middle and high latitudes the satellite moved below or close to the maximum of the F-region so that ionospheric electron density along its trajectory and its variations could be determined in a number of regions on the basis of measurements by ground ionospheric stations. The period of the experiment included both quiet periods and those with strong disturbances. The experiment was conducted under the "Program of Cooperation Among Socialist Countries in the Field of Space Research and Peaceful Use of Space." Ground measurements were made in Bulgaria, Hungary, East Germany, Poland, Rumania, USSR and Czechoslovakia. Observatories and special expeditionary stations in the USSR participated: in Yakutia, the Far North, Siberia and middle latitudes. The article cited below is divided into four parts: 1) Description of Experiment; 2) Measurement of Low-Energy Electrons; 3) Measurement of Low-Energy Ions; 4) Measurements of Charged Particles with Intermediate and High Energies. Parts 2)-4) are essentially independent articles and are abstracted separately.

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USSR

UDC 621.396.6--181.5 (GSS.8)

BARENNOV, A.I., BATSHEVSKIY, V.D., VOSEKHOVNIKOV, I.I., GAVRILOV, R.A., GARYATSKIN, V.P., GOLUBETSOV, M.S., ZAMKHOVSKIY, M.B., ZALIPSKIY, A.I., ~~ALOTIN, V.A.~~, KAZATSKER, L.I., LAGUTIN, G.V., LARIONOV, YU. S., PRASOBRAZHEVSKIY, S.P., KALKIN, D.L., RAMENSKIY, I.V., SIMONOVA, I.S., TIKHOMIROV, B.G., FISHEL', I.SH., SHUBERT, M.M.

"Device For Deposition Of Multilayer Coverings In A Vacuum"

USSR Author's Certificate No 279291, filed 16 June 68, published 30 Nov 70 (from RZh--Radiotekhnika, No 9, Sep 1971, Abstract No 9V272P)

Translation: A device proposed for deposition of multilayer coverings in a vacuum is fulfilled in the form of a number of successively mounted independent operating chambers supplied with evaporators, heaters, and an exhaust system. The device contains a mechanism for transporting substrates, a mechanism for loading and unloading, and a drive mechanism. With the object of increasing the reliability of the device and improving the quality and reproducibility of the coverings deposited, outside of the area of the arrangement of operating chambers and parallel to it a supplementary vacuum chamber is installed, which serves for the deposition in it of the transporting mechanism, and which communicates with each of the operating chambers by means of vacuum-overlapping transfer windows located on the side wall

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BARANOV, A. I., et al., USSR Author's Certificate No 279291, filed 16 June 68, published 30 Nov 70 (from RZh--Radiotekhnika, No 9, Sep 1971, Abstract No 9V272P)

of the supplementary chamber at places for connection to it of the operating chambers. Each of the operating chambers or a group of them is provided with an individual system of high-vacuum pumping.

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USSR

UDO 621.793.14

ZLOTIN, V.A.

"Device For Ion-Plasma Sputtering"

USSR Author's Certificate No 267001, filed 9 Jan 68, published 9 June 70 (from RZh--Elektronika i yeye primersaniye, No 1, January 1971, Abstract No 1A316P)

Translation: The device presented contains a vacuum chamber, a target, a substrate and a system for the creation of plasma, in the composition of which two identical thermionic cathodes enter. An a-c voltage is fed to the latter and by virtue of this the asymmetry of the plasma is removed and the uniformity of deposition of the film is increased. I.V.

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ZLOTIN V.A.
UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent,
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242636 VACUUM-DEPOSITION INSTALLATION comprises working chamber, and lock chamber separated from it by a vacuum screen, and device for moving the base layers to be coated. This device is in the form of a slide-block with recess and fixer placed in the lock chamber, and a bracket with guide projections and a diversion support set in the working chamber. This improves the quality of the coating. The base layer is placed in recess 5 of slide-block 4 and fastened by fixer 6. Vacuum screen 2 is opened, and the base layer is moved by slide-block 4 into working chamber 1.

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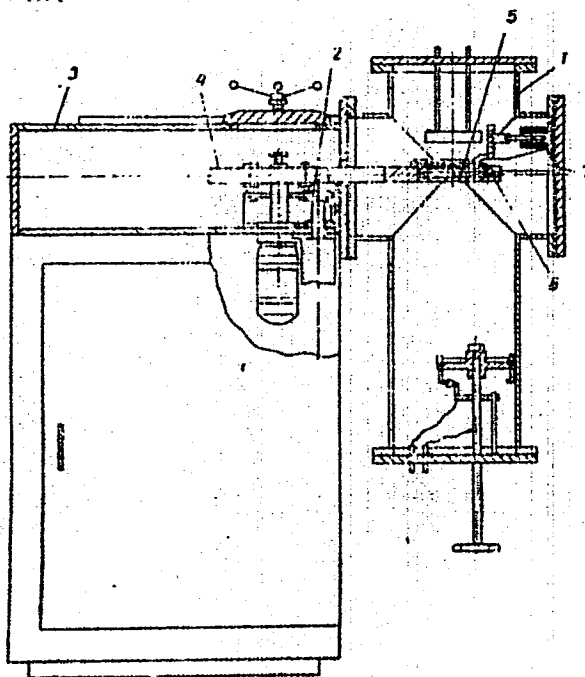
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The diversion support is raised so that the base layer becomes seated on the guide projections of bracket 7. The support is then lowered, and on the return stroke of slide-block 4, the base layer is removed from recess 5. The covering is then applied to the base layer in the working chamber. Slide-block 4 is then again introduced into the working chamber, where the base layer is fastened in recess 5 by fixer 6, after which the support is raised and slide-block 4 returns the base layer to the lock chamber.

4.10.66 as 1105433/22-1 ZLOTIN V.A. (18.9.69) Bul.
15/25.4.69. Class 48b, Int. Cl. C 23c.

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Abstracting Service:
CHEMICAL ABST.

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Ref. Code

UK 0000

135538p Hard facing metallic articles with electrically conductive refractory powder without fusion. Polyachenko, A. V.; Zlotin, Yu. A. (State All-Union Scientific-Research Technological Institute of Maintenance and Operation of Machine and Tractor Stock) Brit. 1,185,869 (Cl. C.23c), 25 Mar 1970, Appl. 21 Dec 1967; 7 pp. Facings of hard powd. materials such as carbide, boride, nitride, or silicide of W, Mo, Cr, Ti, V, or Ta, are more uniform than arc-fused facings, and not impaired by fusion, if the powder is spread on the surface to be faced, and covered with a thin sheet of steel, or more compatible nonferrous metal, of about the same thickness as the powder layer preferably 0.05-1 mm, and the assembly is then consolidated by pressure of 1-47 kg/mm² applied by 1 or 2 narrow rolling electrode wheels moving over all parts of the face area, and imparting heat by elec. current impulses sufficient to at least partially fuse the sheet which is pressed around the hard particles to bond them firmly to the metallic article without melting them. Before applying the pressure with current pulses from the electrode, the powder can be fastened to either the base surface or the covering sheet by pressure or with an org. evaporable adhesive, thus insuring uniform distribution. Several alternate

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layers of powder and different or the same covering sheets can be used if desired. Immediately behind the moving wheel-electrode applying current pulses and pressure, a cooling liq. or gas stream can be applied to the hot bonded facing, but is not required for hardening. If the covering sheet over the bonded hard-particle layer is too thick, it can be machined off to expose edges of the hard particles, but the necessity for such machining is preferably avoided. A hard facing having $\sim 165 \text{ cm}^2$ area was thus applied in 2 min. by fastening $200\text{--}30 \mu \text{ WC}$ powder on a $0.4\% \text{ C}$ steel sheet 0.3 mm thick of that size with glycol, laying the coated side of the sheet on the substrate, and applying 180 kg pressure from each of 2 roller electrodes 95 mm in diam. and 4 mm wide, with 20 kA pulses of 1 msec duration at 15 pulses/sec , against every part of the other surface of the sheet.

George F. Comstock

19900512

USSR

UDC: 542.957+547.241

ZLOTINA, I. B., KOLOBOVA, N. Ye., and ANISIMOV, K. N., Institute of Element-Organic Compounds, Academy of Sciences USSR

"Reaction of Trifluoroacetylcyclopentadienylmanganese Tricarbonyl with Triethyl Phosphite"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 1, Jan 70, pp 159-160

Abstract: A solution of trifluoroacetylcyclopentadienylmanganese tricarbonyl in $P(OEt)_3$ yielded after 2 days at room temperature 65% yellow crystalline adduct $(CO)_3MnC_5H_4COCF_3 \cdot 2P(OEt)_3$, which decomposes at $100-103^\circ$. The adduct, dissolved in C_6H_6 and refluxed with H_2O for 3hr. under argon, gave 60% grey crystalline product, which decomposes at 172° . A cyclic pentaoxyphosphorane structure (I) was attributed to the product. The I structure was confirmed by the ^{19}F NMR spectrum which indicated equivalence of all P atoms and the presence of only one stereoisomer. The ^{31}P NMR spectrum could not be obtained, because of the existence of I in a bipolar, opening form with a tetravalent P atom. The unprecedented resistance of I to 20hr-long hydrolysis remains unexplained.

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1/2 024
UNCLASSIFIED
TITLE--REACTION OF TRIFLUOROACETYLCYCLOPENTADIENYLMANGANESE TRICARBONYL
WITH TRIETHYL PHOSPHITE -U-
AUTHOR--ZLOTINA, I.B., KOLOBOVA, N.YE., ANISIMOV, K.N.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 159-60
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--ALKYL PHOSPHITE, FLUORINATED ORGANIC COMPOUND, HETEROCYCLIC
BASE COMPOUND, MANGANESE COMPOUND, COMPLEX COMPOUND, ISOTOPE, FLUORINE,
NMR SPECTRUM, PHOSPHORUS, ISOMER, STEREOCHEMISTRY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/1611
STEP NO--UR/0062/70/000/001/0159/0160
CIRC ACCESSION NO--AP0100221
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0100221

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KEEPING P(OET)SUB3 WITH TRIFLUOROACETYLCYCLOPENTADIENYLMANGANESE TRICARBONYL 2 DAYS GAVE 65PERCENT YELLOW ((CO)SUB3 MNC SUB5 H SUB4 COCF SUB3)SUB2 P(OET)SUB3, DECOMPD. 100-5DEGREES, WHICH WITH H SUB2 O IN C SUB6 H SUB6 REFLUXED UNDER ARGON 3 HR GAVE 60PERCENT GREY ((CO)SUB3 MNC SUB5 H SUB4 COCF SUB3)SUB2 PO SUB2 H (I), DECOMPD. 172DEGREES. I SHOWED REMARKABLE RESISTANCE TO HYDROLYSIS, AS SHOWN ABOVE, OWING TO ITS STRUCTURE, POSSIBLY AUGMENTED BY CONTRIBUTION OF A BIPOLAR OPEN RING FORM. THE PRIME19 F NMR SPECTRUM INDICATED THE PRESENCE OF BUT ONE STEREOISOMER, BUT THE PRIME31 P SPECTRUM WAS NOT OBTAINED OWING TO LOW SOLY. OF THE SUBSTANCE. THE PRIME19 F SPECTRUM SHOWED EQUIVALENCE OF ALL F ATOMS.

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USSR

ZLOTNIK, B. M.

UDC 681.325.3(088.8)(47)

"A Device for Converting a Binary n_1 -th Order Code With an Identical Number W_1 of Ones in the Words Into an n_2 -th Order Code With an Identical Number W_2 of Ones in the Words"

USSR Author's Certificate No 285345, Filed 23 Nov 68, Published 25 Dec 70
(from Referativnyy Zhurnal — Avtomatika, Telemekhanika, i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B177 P)

Translation: A device is being patented which converts a binary n_1 -th order code with an identical number W_1 of ones in the words into a binary n_2 -th order code with an identical number W_2 of ones in the words. The device contains input and output flip-flop registers, as well as key and logic units made from AND and OR elements. In order to simplify the design, when $W_1 > W_2$, the zero outputs ($n_1 - W_1 + W_2$) of the first flip-flops of the input register are connected via the AND elements of the key unit with the inputs ($n_1 - W_1 + W_2$) of the first flip-flops of the output register. At the same time, the secondary inputs of the AND elements of the key unit are connected with the zero outputs ($W_1 - W_2$) of the final flip-flops of the

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ZLOTNIK, B. M., USSR Author's Certificate No 285345, Filed 23 Nov 68,
Published 25 Dec 70 (from Referativnyy Zhurnal -- Avtomatika, Telemekhanika,
i Vychislitel'naya Tekhnika, No 8, 1971, Abstract No 8B177 P)

input register. When $W_1 < W_2$, the ones outputs ($n_1 - W_2 + W_1$) of the first flip-flops of the input register are connected via the AND elements of the key unit with the inputs ($n_1 - W_2 + W_1$) of the first flip-flops of the output register. The secondary inputs of the AND elements of the key unit are connected with the ones outputs ($W_2 - W_1$) of the final flip-flops of the input register. The inputs of the remaining flip-flops of the output register are connected via the key and logic units with the ones and zero outputs of the flip-flops of the input register.

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1/2 020 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THE NAVUCAINAMIDUM INFLUENCE WITH ITS LOCAL USE ON THE EXPERIMENTAL
SPASM OF BRAIN VESSELS -U-
AUTHOR-(02)-ZLOTNIK, E.I., OLESHKEVICH, F.V.
COUNTRY OF INFO--USSR
SOURCE--ZDRAVOKHRANENIYE BELORUSSII, 1970, NR 6, PP 39-41
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BRAIN, BLOOD VESSEL, SELECTIVE DRUG EFFECT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/0907 STEP NO--UR/0477/70/000/006/0039/0041
CIRC ACCESSION NO--AP0126566
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126566

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF A LOCAL USE OF
NOVOCAINAMIDUM HAVE BEEN REPORTED WITH THE PURPOSE OF ELIMINATION AND
PROPHYLAXIS OF THE EXPERIMENTAL SPASM OF THE BRAIN ARTERIES IN DOGS.
NOVOCAINAMIDUM HAS BEEN MARKED TO BE AN EFFECTIVE MEANS OF PREVENTING
AND ELIMINATION OF THE EXPERIMENTAL SPASM OF THE BRAIN ARTERIES.
FACILITY: NEYROKHIRURGICHESKOYE OTDELENIYE BELORUSSKOGO N-I INSTITUTA
NEVROLOGII, NEYROKHIRURGII I FIZIOTERAPII I LABORATORIYA
KORVOBRASHCHENIYA INSTITUTA FIZIOLOGII AN BSSR.

UNCLASSIFIED

Acc. Nr: **AP0047172**

Ref. Code: UR 0246

PRIMARY SOURCE: Zhurnal Nevropatologii i Psikhatrii, 1970,
Vol 70, Nr 2, pp 212-216

AN ATYPICAL DEVELOPMENT OF THE HEMORRHAGIC PERIOD
IN COMPLICATIONS OF A RUPTURED ANEURYSM
BY AN ARTERIAL SPASM AND INTRACRANIAL HEMATOMA

E. I. Zlotnik, F. V. Oleshkevitch, M. V. Pavlovets

The authors describe 5 cases with sac aneurysms where an intracranial hematoma and cerebro-vascular spasm had a relatively light clinical expression. In 3 cases there was an improvement of the condition prior to the surgical period. The possible reasons conditioning such atypical states are being discussed.

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USSR

UDC: 51

ZLOTNIK, S. G., LAZEBNIK, A. I., SPIRIDONOVA, G. V.

"Use of Linear Programming With Variable Coefficients for Optimizing the State of a Power Supply System With Regard to Restrictions on Reverse Currents"

Materialy Seminara po kibernet. AN MoldSSR. Mold. territor. gruppa Mats. kom. SSSR po avtomat. upr. (Materials of the Moldavian Territorial Group of the National Commission of the USSR on Automatic Control), 1971, vyp. 35, pp 3-10 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V460)

Translation: An algorithm is considered for optimizing the load distribution in a thermal power supply system which accounts fairly accurately for losses in the network and restrictions on reverse flows. The algorithm is based on using linear programming with variable coefficients. Authors' abstract.

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USSR

UDC: 51

ZLOTNIK, S. G., SAPUNAR, E. I.

"Determining the Optimum Makeup of the Working Aggregates of an Electric Power Plant"

Materialy Seminara po kibernet. AN MoldSSR, Mold. territor. gruppa Nats. kom. SSSR po avtomat. upr. (Materials of the Moldavian Territorial Group of the National Commission of the USSR on Automatic Control), 1971, vyp. 35, pp 11-21 (from RZh-Kibernetika, No 4, Apr 72, Abstract No 4V505)

Translation: An algorithm is proposed for the optimum makeup of the working equipment of an electric power plant. The algorithm is based on a combination of the Lagrange method of multipliers and methods of solving the knapsack problem. The algorithm is much more effectively applicable to this purpose than is the dynamic programming algorithm. Authors' abstract.

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1/2 007 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--GENETIC AND PHENOTYPIC STUDY OF DIFFERENT NUCLEOSIDE SENSITIVE
MUTATIONS OF ESCHERICHIA COLI K,12 -U-
AUTHOR--(02)-ZLOTNIKOV, K.M., SUKHODOLETS, V.V.
COUNTRY OF INFO--USSR
SOURCE--GENETIKA 1970, 6(1), 102-10
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BACTERIA MUTATION, ESCHERICHIA COLI, CHROMOSOME, NUCLEOSIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/0594 STEP NO--UR/0473/70/006/001/0102/0110
CIRC. ACCESSION NO--AP0122715
UNCLASSIFIED

2/2 007

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0122715

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NUCLEOSIDESENSITIVE MUTANT OF E. COLI K,12 DESIGNATED NUC,S WAS ISOLATED. NUC,S GREW SLOWLY ON MINIMAL MEDIUM WITH A GENERATION TIME OF ABOUT 4 HR. GROWTH INCREASED IN MEDIUM SUPPLIED WITH NICOTINIC ACID. NUCLEOSIDES EXCEPT THYMIDINE INHIBITED GROWTH. THE MECHANISM OF THE INHIBITION IS DIFFERENT FROM THOSE MUTANTS INHIBITED BY DEOXYRIBOSIDES. THE SEQUENCE OF GENES ON THE CHROMOSOME MAP IS NUC,THD,THR,LEU. FACILITY: INST. GENET. MICROORGANISMS, MOSCOW, USSR.

UNCLASSIFIED

1/2 027
UNCLASSIFIED
TITLE--PHOTOELASTIC PROPERTIES OF CROSSLINKED VINYL AROMATIC COPOLYMERS
-U-
AUTHOR--(03)--ZLOTNIKOV, M.S., ARBUZOVA, I.A., KUVSHINSKIY, YE.V.
COUNTRY OF INFO--USSR
SOURCE--MEKH. POLIM. 1970, 6(1), 3-9
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--ELASTIC MODULUS, POLYSTYRENE RESIN, ETHYLENE GLYCOL, ACRYLATE,
POLYMER CROSSLINKING, PHOTOELASTICITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1898
STEP NO--UR/0374/70/006/001/0003/0009
CIRC ACCESSION NO--AP0112878
UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112878

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CERTAIN PHYS. CONSTS. (SOFTENING TEMP., ELASTICITY MODULUS, BIREFRINGENCE CONSTS.) OF POLYSTYRENE, POLY(CHLOROSTYRENE), OR POLY(VINYLTOLUENE) CHANGE LINEARLY DP IN A NEAR LINEAR MANNER WITH INCREASING CROSSLINKING AGENT CONC. (ETHYLENE GLYCOL DIMETHACRYLATE). AN ATTEMPT WAS MADE TO CORRELATE THE PHOTOELASTICITY OF THESE POLYMERS WITH THE NOMINAL NO. OF CROSSLINKS PER UNIT VOL. (N SUBG). HOWEVER, N SUBG NOT EQUAL TO $E-3KT$ (E IS THE ELASTICITY MODULUS, K IS THE BOLTZMANN CONST. AND T IS THE SOFTENING TEM. IN DEGREE SK). THE PHOTOELASTIC PROPERTIES OF THESE POLYMERS COULD NOT BE CORRELATED WITH ANY KNOWN GAUSSIAN OR NON GAUSSIAN THEORY OF POLYMER CROSSLINKING.

UNCLASSIFIED

USSR

MALANIN, V. V., ZLOTNIKOV, O. I.

"Problem of Optimal Stabilization of Rotary Motion of a Solid Acted upon by Gravitational and Aerodynamic Moments"

Vtoraya Chetayevsk. Konf. po Analit. Mekh., Ustoychivosti Dvizheniya i Optimal'n. Upr., 1973. Annotatsii Dokl. [Second Chetayev Conference on Analytic Mechanics, Stability of Motion and Optimal Control, 1973. Abstracts of Reports], Kazan', 1972, p 36 (Translated from Referativnyy Zhurnal Mekhanika, No 5, 1973, Abstract No 5B290).

Translation: Oscillations of an uncontrolled satellite in the plane of the orbit under the influence of aerodynamic and gravitational moments in a circular polar orbit and their stability are studied. Additionally, the magnetic moment is considered in the planar problem. Asymptotic methods are used to produce an approximate solution, determine resonances and define the periodic solution. Three areas of instability are constructed. The solution of the problem of three-dimensional optimal stabilization of rotary motion of a solid relative to its center of mass is based on the existence of a Jacobi-type integral in the uncontrolled motion and the theorems of the method of A. A. Krasovskiy for analytic design of the control circuits of a flight vehicle. The planar problem is additionally solved by the method of A. M. Letov.

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Corrosion

USSR

UDC: 620.196

MELEKHOV, P. K., ZLOTNIKOV, S. A., VASILENKO, I. I., and KUSLITSKIY, A. B.,
Academy of Sciences of the Ukrainian SSR. L'vov Physicomechanical Institute

"The Effect of the Type of Nonmetallic Inclusions on the Sensitivity of 20
Grade Steel to Corrosion Cracking"

Moscow, Zashchita Metallov, Vol 7, No 3,, 1971, pp 327-329

Abstract: The authors study the effect of the type of nonmetallic inclusions (the plastic silicates, alumina, silica, and the nitrides of titanium) on resistance of grade 20 steel to corrosion cracking. Metal with the following composition of elements was used for specimens: 0.19-0.21% C, 0.21-0.23% Si, 0.35-0.36% Mn, 0.1% Cr, 0.16% Ni, 0.011-0.014% S, and 0.010-0.012% P. The metal was produced by programmed contamination in an induction furnace. The corrosion cracking tests were conducted using cylindrical specimens (heat treatment: quenching in oil at 850° with subsequent two hour tempering at 150°) in a boiling 50% NH_4NO_3 solution on the Zst 3/3 testing strength machine. A test base of 50 hr. was used. The relative sensitivity of steel to corrosion cracking in an alkaline medium was also determined. It is shown that in testing specimens in air at a stretching rate in the order of 10^{-3}mm/min. , their

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USSR

MELEKHOV, P. K., et al., Zashchita Metallov, Vol 7, No 3, 1971, pp 327-329

plasticity remains the same as tested on standard tensile testing machines. In testing in boiling NH_4NO_3 , the inclusion of titanium nitride seems least detrimental. Titanium nitride also seems to have the least harmful effect on the plasticity and strength of steel during testing in an alkaline solution. The type of nonmetallic inclusions notably affect the plasticity and strength of a metal, but not isotropy. The least harmful effect of the nitrides of titanium on the resistance of steel to corrosion cracking can be explained primarily by the fact that the nitrides of titanium are finely divided and that they are relatively uniformly distributed in a die. This results in the reduction of the local concentration of stresses in the metal. The second reason is the insignificant degree of electrochemical heterogeneity of the metal surface. The latter results in an increased incubation period for the development of corrosion cracking. Original article: two tables, two figures, and seven bibliographic entries.

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USSR

UDC 539.434.539.219.1

3

KARPENKO, G. V., KUSLITSKIY, A. B., MIZETSKIY, V. L., ZLOTNIKOV, S. A., TKACHEV, V. I., SHIL'NIKOVA, G. K., and BEREZHKO, B. I., L'vov, Leningrad

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"Effect of the Composition of Nonmetallic Inclusions on the Fatigue Limit of Steel 20"

Moscow, Izvestiya Akademii Nauk SSR, Metally, No 1, Jan-Feb 1970, pp 104-108

Abstract: Qualitative investigations were made of programmed amounts of impurities in steel. In connection with this, experiments were conducted on the formation in steel of non-metallic inclusions of a given chemical composition: plastic silicates, alumina and high-alumina aluminosilicates, semi-brittle silicates, and titanium nitrides. It is shown that the composition of non-metallic inclusions has a significant effect on the fatigue limit of the steel. Of the four types of inclusions studied, the most damaging proved to be plastic unsaturated silicates and titanium nitrides; silica inclusions were the least damaging. The principal negative role of non-metallic inclusions results in the appearance of considerable residual stresses owing to the difference in the physical properties of the inclusions and the metal matrix. These stresses are formed in the metal during unavoidable technological heating and cooling, even before external forces are applied.

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Mechanical Properties

USSR

UDC 620.186.14:669.14:620.178.335

KHARISH, Ye. L., ZLOTHIMOV, S. A., YAREMA, S. Ya., MUSLITSKIY, A. B., and
MIZETSKIY, V. L., Institute of Physico Mechanics, Academy of Sciences Ukrainian
SSR

"Effect of Nonmetallic Inclusions on the Impact Strength of Low-Carbon Steel"

Moscow, Metallovedeniye, No 5, May 70, pp 58-60

Abstract: Steel 20 was melted so as to produce specific types of inclusions: lamellar (unsaturated) silicates, aluminum oxide, silicon dioxide, and titanium nitrides. The chemical composition of all heats was in the following ranges (%): 0.19-0.21 C, 0.21-0.23 Si, 0.35-0.37 Mn, 0.1 Cr, 0.16 Ni, 0.011-0.012S, 0.010-0.012 P, and less than 0.01 N. Hydrogen and oxygen content varied from 0.00010-0.00034% and 0.0048-0.022% respectively. Mechanical properties were affected only slightly by the inclusions and had the following values: σ_B --46-48 kg/mm², σ_S --27-29 kg/mm², elongation--33-35%, reduction in area--66-68.5%, and impact strength--14-16.5 kg/mm². Standard impact test specimens were used for testing.

It was found that the durability of longitudinal samples was better than for transverse samples and at negative temperatures the fatigue strength is greater than at room temperature. The poorest durability was found in samples which had lamellar silicate inclusions in the grain boundaries. The durability of samples

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USSR

KHARISH, Ye. L., et al., Metallovedeniye, No 5, May 70, pp 58-60

containing the other types of nonmetallic inclusions was 1.2 to 2.2 times better. Maximum durability was noted in samples containing alumina inclusions. The relatively favorable effect of these inclusions was evidently caused by the low magnitude of residual stresses developed in the steel due to comparatively small differences in the modulus of elasticity and volume coefficients of thermal expansion of the inclusions and the metallic matrix. High strength of the silica and titanium nitride inclusions and the large difference in the coefficients of expansion of these particles and the matrix cause considerable residual stresses in the inclusions and lead to earlier rupture than in samples with alumina inclusions. Anisotropy was more noticeable in transverse samples when tested at room temperature. Also, with increased stress the magnitude of anisotropy increased.

Lowering of durability in transverse specimens was caused by the presence of stringer inclusions positioned perpendicular to the direction of applied stress. At small loads, the concentration of stresses in the inclusions is less dangerous. As local stresses grow in transverse samples the yield point is reached much sooner than in longitudinal samples. At negative temperatures the steel is more brittle, but the difference in concentration of stresses in longitudinal and transverse samples becomes less significant and their durability is almost the same.

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USSR

UDC: 615.361.C14.413:681.3

KOMAROV, B. A., GORBOVITSKIY, Ye. V., BELOVA, I. A., and ZLOTNIKOV, V. P., All-Union Scientific Research Institute of Surgical Apparatus and Instruments

"An Apparatus for Deep Cooling of Biological Objects With Programmed Control"

Moscow, Meditsinskaya Tekhnika, No 1, 1971, pp 51-53

Abstract: A description (with photograph, line diagram, and specifications) of the KZ-8 apparatus designed by the All-Union Scientific Research Institute of Surgical Apparatus and Instruments for programmed cooling of bone marrow, blood, and other tissues, is given. When the actual temperature is different from that called for at a particular moment by the program, various mechanisms (pump, heaters) are activated at a signal from a 3-position regulator. When the actual temperature of the object is higher than that prescribed, the pump is switched on. A vacuum is created in a pipeline - heat exchanger - Dewar flask system and liquid nitrogen enters the heat exchanger which it cools upon evaporating. If the actual temperature is below that prescribed, the heaters are turned on. The heat exchanger is immersed in ethyl alcohol, petroleum ether, ethylene glycol, etc. into which containers with bone marrow, blood, etc. are set.

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USSR

UDC 621.391.154

ZLOTNIKOV, YU.S., KAYZER, I.Z.

"Modeling On An Electronic Digital Computer Of Algorithms For Decoding Cyclic Codes, Correcting Errors"

Elektrosvyaz', No 2, 1972, pp 70-72

Abstract: The methods and results are presented of modeling on an electronic digital computer of systems of data transmission with cyclic correcting codes (including codes for correcting errors in a compound channel), during the effect of a flow of errors characteristic of shortwave and wire channels. Two types of devices are described which were used as sources of errors in the channel. 1 fig. 1 tab. 6 ref. Received, 14 Jan 71.

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Corrosion

USSR

UDC 669.14.018.8:620.193.4

SHAPIRO, M. B., and ZLOTNITSKAYA, L. V., NIIKHIMMASH /All-Union Scientific Research and Design Institute of Chemical Machine-Building/

"Intercrystalline Corrosion Susceptibility of Austenitic Stainless Steel"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, 1971, pp 24-26

Abstract: The authors studied the dislocation structure of Kh18N10T steel after different types of heat treatment and its relation to intercrystalline corrosion in sulfuric and nitric acids (the AM and D method, All-Union State Standard 6032-58) and corrosion cracking in magnesium chloride. Two steel melts were used for the study. It was found that carbide precipitation in the steel and its intercrystalline corrosion susceptibility are influenced by the steel's dislocation structure. Intercrystalline corrosion of the steel in nitric acid is due to increased dislocation density at the grain boundaries and in the boundary zone after tempering at 600-650° C, rather than the result of chromium depletion of the grain boundaries. Tensile straining (to 30%)

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USSR

SHAPIRO, M. B., and ZLOTNITSKAYA, L. V., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, 1971, pp 24-26

increases the intercrystalline corrosion resistance of steel specimens tested according to the AM method. More complete carbon fixation in titanium carbides can be achieved by combined treatment, including strain, heating at 600° C for 10 hours and stabilizing annealing at 900° C for 8 hours. This treatment is recommended for raising intercrystalline corrosion resistance at 500-650° C.

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UDC 669.15.018.8

USSR

SHAPIRO, M. B., and ZLOTNITSKAYA, L. V.

"Effect of Thermomechanical Treatment of Sensitivity of Austenitic Steel to Stress Corrosion Cracking"

V. sb. Povysh. konstruktivn. prochnosti staley i splavov (Increasing the Structural Strength of Steels and Alloys), No 2, Moscow, 1970, pp 212-215 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 31600 by M. Shapiro)

Translation: The authors studied the effect of 5-30% stretching strain and subsequent heating at 600-650°, 10% fractional strain (3 cycles) and heating at 600°, and thermal rolling at 250-400° and subsequent heating at 400° on the dislocation structure and mechanical properties of Kh18Ni10T steel (C 0.08-0.10%, Ti 0.5-0.65%), as well as the steel's sensitivity to stress corrosion cracking (SCC) in a boiling 42% MgCl₂ solution. The SCC tests were carried out in special clamps, and the given strain was established with the aid of strain gauges. The SCC tests showed that the maximum SCC resistance is found in the steel after fractional plastic straining and tempering at 600°. This is due to the high density of dislocations and their blocking by the Cr carbides precipitated during tempering. Two illustrations. One table.

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USSR

UDC 621.372.822

BELOUSOVA, L. I., ZLUNITSYNA, V. N.

"Slot Wave in a Rectangular Wave Guide with a Longitudinal Slot"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 15, pp 34-38 (RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B101)

Translation: The basic characteristics of a slot wave are found as a function of the geometric parameters of the structure and frequency. There are 3 illustrations and a 3-entry bibliography.

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Therapy

UDC 616.988-085.281.8(047)

USSR

ZLYDNIKOV, D. M., Professor, Chief, Clinical Division, Influenza Institute,
Ministry of Health USSR, Leningrad

"Chemoprophylaxis and Chemotherapy of Influenza and Other Virus Diseases"

Moscow, Terapevticheskiy Arkhiv, Vol 44, No 3, Mar 72, pp 16-20

Abstract: During the past 20 years, considerable progress has been made in the development of drugs for the chemoprophylaxis and chemotherapy of virus diseases. Marboran (methisazone) proved effective in the prophylaxis of smallpox, particularly when applied in combination with anti-smallpox vaccination, and the prevention of complications arising in connection with these vaccinations. Under the name of methisazone, marboran has been approved by the Pharmacological Committee of the Ministry of Health USSR for industrial production and clinical application in the USSR. Oxolin, which was synthesized at the All Union Scientific Research Chemopharmaceutical Institute imeni S. Ordzhonikidze, has a therapeutic effect during local treatment of adenovirus keratoconjunctivitis, herpetic keratitis, and skin lesions produced by herpes simplex virus. Tests on volunteers showed that oxolin, when applied in the form of an ointment to the surface of nasal passages, prevented development of influenza A2 infection in 39.8% of cases.

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USSR

ZLYDNIKOV, D. M., *Terapevticheskiy Arkhiv*, Vol 44, No 3, Mar 72, pp 16-20

The results of tests of oxolin in influenza epidemics were somewhat contradictory, but a certain therapeutic effect of the drug was indicated. Oxolin was approved by the Pharmacological Committee of the Ministry of Health USSR for use on a wide scale. Amantadine HCl was effective in prophylaxis of A2 influenza, particularly Hong Kong A2 influenza, while showing no activity against type B influenza. In tests conducted by Zlydnikov et al., on volunteers, administration of amantadine before introduction of A2 virus prevented influenza in 50% of cases. The subjects remained practically healthy, and the course of the disease was alleviated in the other 50% of cases. Good results were obtained with amantadine in the USSR in field tests during the epidemic of Hong Kong influenza, type A2, in 1969-1970. Under the name of midantan, amantadine is being produced in the USSR by the Experimental Plant of the Institute of Organic Synthesis of the Latvian SSR at Riga. Amantadine has been approved by the Pharmacological Committee of the Ministry of Health USSR for use in clinical and epidemiological tests on a wide scale.

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UNCLASSIFIED

PROCESSING DATE--30OCT70

1/2 020

TITLE--CLINICAL FEATURES SPECIFIC TO HONG KONG A SUB2 INFLUENZA IN 1969

-U-

AUTHOR--(05)--ZLYDNIKOV, D.M., BEIYAYEVA, N.M., ROMANOV, YU.A., YEVDOKIMOV,
N.M., CHEPIK, YE.B.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 5, PP 97-102

DATE PUBLISHED--170

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INFLUENZA VIRUS, SEROLOGIC TEST, GAMMA GLOBULIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0528

STEP NO--UR/0497/70/048/005/0097/0102

CIRC ACCESSION NO--AP0124224

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE—30OCT70

CIRC ACCESSION NO—AP0124224

ABSTRACT/EXTRACT—(U) GP-0- ABSTRACT. A CLINICAL STUDY OF 684 PATIENTS WITH SEROLOGICALLY CONFIRMED DIAGNOSIS DURING THE EPIDEMICS OF HONG KONG S SUB2 INFLUENZA IN LENINGRAD REVEALED NO ESSENTIAL DIFFERENCES IN THE COURSE OF A SUB2 INFLUENZA OUTBREAKS OF THE PRECEDING YEARS. THE 1969 HONG KONG A SUB2 INFLUENZA OUTBREAK WAS CHARACTERIZED BY MODERATE INTOXICATION AND CATARRHAL SYMPTOMS. THE CLINICAL PICTURE OF INFLUENZA WAS CHARACTERIZED BY A PECULIARITY OF A NUMBER OF CLINICAL SYMPTOMS. SPECIFIC ANTI INFLUENZAL AGENT (ANTI INFLUENZAL GAMMA GLOBULIN, POLYGLOBULIN, ANTI INFLUENZAL SERUM) IN THEIR EARLY EMPLOYMENT PRODUCED A DISTINCT THERAPEUTIC EFFECT. FACILITY: VSESOUZNIY NAUCHNO ISSLEDOVATEL'SKIY INSTITUT GRIPPA MINISTERSTVA ZDRAVOOKHRANENIYA SSSR, KLINICHESKAYA INFETSIONNAYA BOL'NITSA IM. S. P. BOTKINA I 32 YA POLIKLINIKA ZHDANOVSKOGO RAYONA.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--HEMOSTASIS INDICES IN RADIUM THERAPY OF LUNG CANCER -U-
AUTHOR--(03)-STRASHININ, A.I., YEVDOKIMOV, N.M., ZLYDNIKOV, D.M.
COUNTRY OF INFO--USSR
SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 3, PP 6-8
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RADIUM, MEDICAL NUCLEAR APPLICATION, LUNG, CANCER, FIBRINOGEN,
THROMBOCYTE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1985/1695

STEP NO--UR/0241/70/015/003/0006/0008

CIRC ACCESSION NO--AP0101750

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--18SEP70

2/2 020

CIRC ACCESSION NO--AP0101750

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. UNDER STUDY WAS THE CLINICAL VALUE OF HEMOSTASIS INDICES FOR DETERMINING THE EFFECTIVENESS OF RADIUM THERAPY IN 39 PATIENTS WITH CANCER OF THE LUNG. IN THE GROUP OF PATIENTS WITH SATISFACTORY IMMEDIATE RESULT OF RADIUM THERAPY THE FOLLOWING WAS NOTED: REDUCTION OF FIBRINOGEN CONCENTRATION, INTENSIFICATION OF THE FIBRINOLYTIC ACTIVITY, DECREASE OF THE QUANTITY OF THROMBOCYTES WITH NORMALIZATION OF THE THROMBOCYTE FORMULA; NO SUCH CHANGES WERE OBSERVED IN THE GROUP OF PATIENTS WITH INEFFECTIVE RADIUM THERAPY. SUBSEQUENT CLINICAL OBSERVATIONS OVER PATIENTS UNDERGOING RADIUM THERAPY HAVE SHOWN THAT IN PATIENTS WITH A SATISFACTORY EFFECTIVENESS OF RADIUM TREATMENT THE AVERAGE SURVIVAL COMPRISED 19 AND ONE HALF MONTHS, WHEREAS IN PATIENTS WITH AN UNSATISFACTORY EFFECT, 7 AND ONE HALF MONTHS.

UNCLASSIFIED

Acc. Nr: **AP0049041**

Ref. Code: **UR0357**

PRIMARY SOURCE: Vestnik Oftal'mologii, 1970, Nr / ,
PP 19-23

**SOME PROBLEMS OF PATHOGENESIS AND TREATMENT OF OCULAR
HYPERTENSION IN CLIMACTERIUM**

Suprun, A.V.; Krymskaya, M.L.; Zmanovskiy, Yu.F.; Bove, M.V.

Summary

Results consecutive to dynamic examination of 40 women with climacteric syndrome and deranged regulation of the intraocular tension are reported. The follow-up time ranged from 2 to 7 years. Clinical and electrophysiological (EEG and REG) investigations furnished evidence that in 35 patients subcortical brain structures were involved in the pathological process with attendant changes in the cerebral circulation, commonly of functional nature. Pathogenetic treatment (sedative and hormonal therapy) contributed to the improvement of the general condition of patients and to the normalization of intraocular pressure in them. In 12 women symptoms of the climacteric

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syndrome vanished, intraocular tension returned back to normal with no objective changes visible on the level of the eyes. Twenty women exhibited upset regulation of the intraocular pressure without any other signs of glaucoma, while in 8 others initial primary glaucoma was diagnosed. The authors conclude that, alongside manifestations of primary glaucoma, women with pathological climacterium may present specific disturbances of the intraocular pressure regulation without any other symptoms of glaucoma, these disturbances having a tendency towards involution. This condition is considered by them as ocular hypertension, appearing as a symptom of climacteric syndrome.

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19800826

1/2 040 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--ENERGY BALANCE OF AVERAGE AND PULSATING MOTION IN ANNULAR TURBULENT
FLOWS -U-
AUTHOR--(02)-USTIMENKO, B.P., ZMEYKOV, V.N.
COUNTRY OF INFO--USSR
SOURCE--INZHENERNO-FIZICHESKII ZHURNAL, VOL. 18, APR. 1970, P. 664-670
DATE PUBLISHED----APR70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--TURBULENT FLOW, SHEAR STRESS, CYLINDRIC FLOW
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1750 STEP NO--UR/0170/70/018/000/0664/0670
CIRC ACCESSION NO--AP0125368
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 040

CIRC ACCESSION NO--AP0125368

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. ANALYSIS OF THE ENERGY BALANCE OF AVERAGED AND PULSATING MOTIONS IN THE GAP BETWEEN TWO COAXIAL ROTATING CYLINDERS, ON THE BASIS OF TURBULENT ENERGY EQUATIONS CONTAINING TERMS ASSOCIATED WITH THE GENERATION AND DISSIPATION OF THE ENERGY OF PULSATING MOTION IN THE MAIN REGION OF THE FLOW. THE PRINCIPAL ENERGY BALANCE COMPONENTS ARE DETERMINED WITH THE AID OF EXPERIMENTAL DATA, AND THE ROLE OF THESE COMPONENTS IN THE VARIOUS REGIONS OF THE FLOW IS EXAMINED. IT IS SHOWN THAT FOR A CHANNEL WITH A ROTATING INNER CYLINDER, THE KINETIC ENERGY OF AVERAGED MOTION NEAR THE MOVING WALL INCREASES DUE TO THE WORK OF VISCOUS SHEAR STRESS. WITH INCREASING DISTANCE FROM THE WALL, THE FLOW IS DECELERATED DUE TO THE ACTION OF TURBULENT SHEAR STRESS. AT THE OUTER NONROTATING WALL, THE INCREASE IN KINETIC ENERGY DUE TO TURBULENT FRICTION IS COMPENSATED FOR BY THE GENERATION OF TURBULENT ENERGY AND BY THE WORK OF VISCOUS FORCES. FOR AN OUTER ROTATING CYLINDER, THE DISTRIBUTION OF THE ENERGY BALANCE COMPONENTS IS MUCH MORE COMPLICATED. NO RELIABLE ESTIMATES OF THE ENERGY BALANCE CAN BE OBTAINED ON THE BASIS OF THE ANNULAR FLOW EQUATIONS, IN THIS CASE.

FACILITY: KAZAKHSKII

NAUCHNO-ISSLEDOVATEL'SKII INSTITUTE ENERGETIKI, ALMA-ATA KAZAKH SSR.

UNCLASSIFIED

USSR

UDC: 8.74

ZMITROVICH, A., MOROZOV, V.

"Tabular ALGEK Language Translator"

V sb. Elektronno-vychisl. tekhn. i programir. (Electronic Computer Technology and Computer Programming--collection of works), vyp. 4, Moscow, "Statistika", 1971, pp 19-25 (from RZh-Kibernetika, No 1, Jan 72, Abstract No IV1013)

Translation: The paper deals with conversion of decision-making tables to programs in the ALGEK algorithmic language. An example is given to show the advantages of tabulation of the algorithm over a flowchart. Programs are given in ALGEK, COBOL and PL₁/1. Table structure and types are considered. Problems of using tabular algorithms in the ALGEK language in preprocessor operation are brought up. Basic preprocessor algorithms are briefly outlined. Authors' abstract.

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USSR

ZMITROVICH, A. and MOROZOV, V.

"ALGEK, the Tabular Language Translator"

Moscow, Elektronno-Vychislitel'naya Tekhnika i Programirovaniye
No. 4, 1971, pp 19-25

Abstract: In order to reduce the algorithmization time and the time for programming economic or production control problems, the authors consider decision-making tables, which are beginning to be used effectively for the solution of such problems. By way of an example, the analysis uses a block diagram describing the rules for preparing a list of parts corresponding to five categories depending on the weight, length, diameter, and number of parts in an assembly. Programs for the block diagram are written in ALGEK, KOBOL, and PL/I languages. Three types of decision-making tables are presented and discussed. Also examined are some of the applications of ALGEK. It is programmed in the codes of the "Minsk-22" computer. At the present time, the translator is being experimentally used in the Moscow Economic-Statistical Institute.

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USSR

UDC: 8.74

ZMITROVICH, A. I.

"A Tabular Language Patterened After the CERN-FORTRAN Language"

V sb. Teoriya i praktika sbora, peredachi i obrab. ekon. inform. (Theory and Practice in Collecting, Transmitting and Processing Economic Information--collection of works), Moscow, 1971, pp 60-68 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V509)

Translation: The paper describes a language of decision tables within the framework of the CERN-FORTRAN language (FORTAB). The format of table conditions of the FORTAB language is presented. It is noted that FORTAB may act as a basis for developing a translator from a tabular language to operators of the CERN-FORTRAN language.

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USSR

UDC 681.3.06:51

ZMITROVICH, A. I.

"Description of the TABALGEK Preprocessor"

Teoriya i Praktika Mashin. Obrab. Ekon. Inform. [Theory and Practice of Machines for Processing Economic Information -- Collection of Works], Moscow, 1971, pp 193-202, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V783 by V. Mikheyev).

Translation: A description is presented of the basic algorithms of a preprocessor performing translation from the tabular language TABALGEK to ALGEK. The preprocessor inspects the symbols of the initial text in series and if no tables of solutions are found it transfers the symbols selected to the text of the output program in the same form in which they were encountered. If the program has no tables of solutions the text of the output program is identical to the text of the initial program.

ZMITROVICH, L. A.

50:JPRS 54304
22 OCT 71

UDC: 616.3-06:616-005.11-06:610.33-092

PATHOGENESIS OF FETAL DISTURBANCES FOLLOWING ACUTE HEMORRHAGE DURING THE
TERMINAL PERIOD OF PREGNANCY (EXPERIMENTAL STUDY)

Article by L.M. Lebedeva, L.A. Zmitrovich, N.N. Konstantinova, A.B. Soroka,
Institute of Obstetrics and Gynecology, Faculty of Medical Sciences,
Leningrad; Kovaleva, Ye.Ye., Zaitseva, Ye.Ye., Zaitseva, Ye.Ye., Zaitseva, Ye.Ye.,
1971, pp 62-69

The fetus adjusts relatively well to a chronic oxygen deficiency in the environment. It is quite possible for a normal offspring to be born when there has been prolonged anemic hypoxia during pregnancy, as indicated by clinical studies (R.N. Myshakov, 1957; V.I. Bolyashina and Ye.V. Kravtsova, 1958; A.I. Belubayev, 1960; Din Yen, 1960; Lankovsky, 1961). Experiments on rats also revealed that in the case of acute massive loss of blood in early pregnancy (Wilac, 1954) and in the second half of pregnancy (L.M. Lebedeva, 1959) some the embryos and fetuses die, while the condition of those that survive improves daily. Consequently, the fetus is exposed to the greatest danger during acute maternal hemorrhage and in the hours immediately thereafter. G.D. Derzhinskii (1969) observed fetal bradycardia during acute blood letting in pregnant rats, and the more massive the blood loss the more marked was the bradycardia which appeared immediately after blood letting was started. T.A. Knirova (1963), K.N. Utegenova, Yu. V. Utegenov (1958) and others observed considerable bradycardia in clinical practice. In the case of complicated pregnancy related to hemorrhages. The extent of fetal injury depends on the condition of the mother at the time of the hemorrhage. Blood letting following prolonged immobilization of pregnant rats aggravated considerably the course of experimental asphyxia; hemorrhages in animals under anesthesia which weakens reflex hemodynamic reactions are less injurious to the fetus than bleeding of unanesthetized animals. (L.M. Lebedeva, 1970b)

Acute bleeding rather often complicates the course of pregnancy and could be the cause of intra-uterine asphyxia. What we now know about the cause of the mechanism of its effect on the fetus proves that it is not only necessary but also possible to control the consequences of blood loss. For this, further experimental and clinical investigation is needed of the pathogenesis of the pathological reactions related to bleeding which appear in the maternal and fetal organism.

MEDICINE

1/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--PREPARATION AND STUDY OF AROMATIC OILS , RUBBER, SOFTENERS FROM
VOLGOGRAD PETROLEUMS -U-

AUTHOR--(05)-ZMIYEVSKIY, P.K., SALNIKOV, D.D., KATS, KH.SH., FRENKEL,
R.SH., KURYANOVA, I.S.

COUNTRY OF INFO--USSR

2

SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (2), 9-10

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--AROMATIC HYDROCARBON, PHENOL, SOLVENT EXTRACTION, THERMAL
STABILITY, PETROLEUM PRODUCT, ELASTICITY, RUBBER CHEMICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1996/1525

STEP NO--UR/0318/70/000/002/0009/0010

CIRC ACCESSION NO--AP0118512

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118512

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PHENOLIC EXT. FROM ZHIRNOVSK AND KOROCHKOVSK PETROLEUM DEASPHALTATE WAS AGAIN EXTD. WITH 2.5 PARTS BY VOL. PHOH AND 10PERCENT H SUB2 O, GIVING A HIGHLY AROMATIC EXT. AND A NAPHTHENIC AROMATIC DISTILLATE. THE 2 PRODUCTS WERE GOOD SOFTENERS FOR RUBBER, YIELDING VULCANIZATES WITH ELASTICITY AND THERMAL STABILITY HIGHER THAN THOSE OBTAINED WITH THE USUAL ONES.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--INDUSTRIAL EXPERIENCE FOR OBTAINING ELECTRODE COKE FROM VACUUM
RESIDUE OF MANGYSHLAK PETROLEUM -U-
AUTHOR--ZHIYEVSKIY, P.K., TIMOFEYEV, A.A., MITROFANOV, N.G., DEREKH, P.A.,
MARTIROSOV, V.G.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCOW) 1970, (1) 5-8
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, EARTH SCIENCES AND OCEANOGRAPHY, PROPULSION AND
FUELS
TOPIC TAGS--PETROLEUM PRODUCT, CRUDE OIL, ELECTRODE, COKE, PETROLEUM
DISTILLATION, VACUUM DISTILLATION, KEROSENE, PETROLEUM DESALTING,
CHEMICAL COMPOSITION, SULFUR, VANADIUM, GASOLINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/1140 STEP NO--UR/0318/70/000/001/0005/0008
CIRC ACCESSION NO--AP0107629
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0107629

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESIDUE, DISTG. 10PERCENT SMALLER THAN OR EQUAL TO 500 DEGREES, D PRIME 20 0.926, ASH 0.06, S 0.26, V 0.001, NI 0.002, COKE 8.0, TAR 28, ASPHALTENES 1.75, OIL 70, HARD PARAFFINS 17 WT. PERCENT, YIELDED, BY DELAYED COKING, ELECTRODE COKE CONTG. 7PERCENT VOLATILE MATTER. GOOD RESULTS WERE OBTAINED WHEN THE CRUDE PETROLEUM WAS DESALTED TO 10-15 MG AND THE RESIDUE CONTAINED MAX. 30-45 MG NACL-L., YIELDING GAS 9PERCENT, GASOLINE 8. SMALLER THAN OR EQUAL TO 200 DEGREES 10, KEROSENE, GAS OIL, AND FUEL 62, COKE 16, INCLUDING ELECTRODE COKE 6.5 WT. PERCENT. THE LATTER CONTAINED S 0.6 AND V 0.0014-0.0022PERCENT.

UNCLASSIFIED

USSR

UDC 616-001.7

ZMIYEVSKIY, V. I., PYATYSHEV, L. I., KONRADI, G. G., and ZAMILATSKIY, YE. P.

"Cryostat with a Recharging Device for Tensile Testing Materials at 20° K"

Moscow, Zavodskaya Laboratoriya, No 10, Oct 72, pp 1271-1273

Abstract: The authors developed a cryostat which makes it possible to remove fractured samples and put new samples in without having to remove the liquid hydrogen from the working chamber. This newly developed cryostat also allows a sample to be pre-cooled, clamped and stressed in a special chamber containing liquid nitrogen before being submerged in the liquid hydrogen. Three to six samples can be tested before having to recharge the cryostat with liquid hydrogen. One figure, 3 bibliographic references.

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USSR

UDC 539.257:669.24

ZMIYEVSKIY, V. I., YEGOROV, V. N., PYATYSHEV, L. I., ZAMILATSKIY, Ye. P.
KONARDI, G. G. (Kaliningrad, Moskovskaya Oblast)

"Methods of Evaluating the Mechanical Properties and Structural Strength of
Metal Materials at Low Temperatures"

Kiev, Problemy Prochnosti, No 12, December 1971, pp 26-29

Abstract: In the present article is briefly considered the state of the question with respect to each test category, previously conducted projects are described, and problems concerning further developments are presented on the basis of discussion. An analysis is given of the procedures for determining the mechanical characteristics of materials at temperatures down to 20° K (tests for elongation, and tests for impact viscosity with a previously created fatigue crack). Diagrams are presented for installations used in hydraulic and pneumatic tests of containers at a temperature of 20° K. 6 figures. 3 references.

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USSR

UDC 621.374.32

ZMUDIKOV, V. I., MIKHAYLOV, Ye. I.

"A Multistage Flip-Flop Device"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki,
No 4, Feb 72, Author's Certificate No 326742, Division H, filed 6 Oct 69,
published 19 Jan 72, p 216

Translation: This Author's Certificate introduces a multistage flip-flop device based on transistors. The device contains at least two flip-flops -- a triggering flip-flop and a triggered flip-flop -- and connecting networks between the flip-flops, the outputs of these networks being connected to the bases of the triggered flip-flops. As a distinguishing feature of the device, the connecting networks between flip-flops are in the form of diodes, and the bases of the flip-flop transistors are used as the outputs for the triggering flip-flops.

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USSR

UDC: 620.178.746

ZNACHKOVSKIY, O. Ya., NOVIKOV, N. V., Kiev

"Influence of Cooling (-269° C) on Rupture Kh18N10T and Kh16N6 Steels in Impact Bending"

Kiev, Problemy Prochnosti, No 3, Mar 73, pp 108-112.

Abstract: The influence of cooling to -269° C and notch sharpness on work of rupture and its components -- work of formation and work of development of rupture cracks -- are studied for Kh18N10T and Kh16N6 steels, typical metals used in cryogenic equipment. It is established that with cooling to -269° C, the work of rupture decreases basically due to a decrease in the work of crack development. The work of crack formation is little dependent on temperature and decreases significantly with increasing notch sharpness. It is demonstrated that the ratio of work of development of a crack to work of formation of a crack can most completely characterize the usability of viscous materials under deep cooling conditions.

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USSR

UDC 620.174.24:669.71'295

NOVIKOV, N. V., and ZNACHKOVSKIY, O. YA., Institute of Problems of Strength,
Ukrainian SSR Academy of Sciences

"Features of the Failure of Aluminum and Titanium Alloys at Low Temperatures"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 5, May 73,
pp 27-29

Abstract: It is shown that significant changes take place in the type of failure in aluminum and titanium alloys during quenching from 20 to -269°C . The heterogeneity of the deformed state of metal in the work zone increases. The failure surface during bending impact of the specimens of aluminum alloys shifts to the outlying areas. The intensity of formation of crack decreases most profoundly at room temperature with an increase in the sharpness of the notch.

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USSR

UDC 620.178.74

ZNACHKOVSKIY, O. Ya., NOVIKOV, N. V., (Kiev)

"Impact Bend Testing at Low Temperatures with Recording of Deformation Diagrams"

Kiev, Problemy Prochnosti, No 12, Dec. 1972, pp 55-57.

Abstract: A system is described for recording of deformation force-bending, force-time, bending-time diagrams during impact bending tests over a broad range of low temperatures (down to -269°C) using various types of impact testers.

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USSR

UDC: 681.3.06:51

ZNAK, V. I.

"On Methods of Analyzing Block Diagrams and Programs"

V sb. Tsifr. vychisl. tekhnika i programmir. (Digital Computer Technology and Programming--collection of works), vyp. 6, Moscow, "Sov. radio", 1971, pp 92-97 (from RZh-Kibernetika, No 7, Jul 71, Abstract No 7V7C6)

Translation: Conventional methods of analyzing flowcharts and programs (or operator diagrams) for the purpose of revealing undesired properties in algorithm flowcharts utilize the theory of graphs and take no account of the distribution of displacements. The concept of a correct flowchart with regard to the distribution of displacements is introduced. The problem of checking the correctness of a flowchart is formulated. In order to solve this problem, the algorithm flowchart is presented in the form of a square automaton table, and a recursive procedure is given for enumerating the paths of the flowchart. The concept of interconnected paths is then introduced; a substitution procedure is given for the interconnected cycle ϕ and path A; the concept of applicability of cycle ϕ to path A is introduced and a theorem is worked out for correct flowcharts.

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ZNAK, V. I., Tsifr. vychisl. tekhnika i programmir., vyp. 6, Moscow, "Sov. radio", 1971, pp 92-97

The results can be used in debugging programs when solving various types of problems on digital computers. Bibliography of 11 titles. Author's abstract.

1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--USE OF GAS LIQUID CHROMATOGRAPHY FOR THE ANALYSIS OF ADIPONITRILE
AND HEXAMETHYLENEDIAMINE OBTAINED FROM ADIPIC ACID -U-
AUTHOR--(04)-USOVA, E.P., MITINA, L.I., MILYUKOVA, YU.F., ZNAMENSKAYA, A.P.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 571-5
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--GAS CHROMATOGRAPHY, ADIPONITRILE, HEXAMETHYLENEDIAMINE, ADIPIC
ACID, CYCLOPENTANE, KETONE, CYANIDE, ORGANIC OXIDE, BENZENE, PYRIDINE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0003 STEP NO--UR/0075/70/025/003/0571/0575
CIRC ACCESSION NO--AP0132303
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132303

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GAS LIQ. CHROMATOGRAPH. WAS USED TO ANALYZE ADIPONITRILE AND HEXAMETHYLENEDIAMINE OBTAINED FROM ADIPIC ACID. OPTIMUM CONDITIONS HAVE BEEN FOUND FOR THE QUANT. DETN. OF CYCLOPENTANE, CYCLOPENTYLIDENECYCLOPENTANONE, 2,CYANOCYCLOPENTANONE, BIPHENYL, DIPHENYL OXIDE, TRIS(TRIMETHYLENE)BENZENE, 1,CYANO,2,AMINOCYCLOPENTENE. 3,4,5,6,BIS(TRIMETHYLENE),2, AMINOPYRIDINE, 3,4,5,6,BIS(TRIMETHYLENE),2,BUTYLPYRIDINE, DELTA CYANOVALERAMIDE IN ADIPONITRILE. THE MOST UNIVERSAL STATIONARY PHASE WAS 20PERCENT POLYETHYLENE GLYCOL ON CELITE IN A 2 M COLUMN. LESS VOLATILE COMPS. WERE SEPD. ON A 1 M COLUMN WITH 5PERCENT POLYETHYLENE GLYCOL ON CELITE AT 190DEGREES. FACILITY: STATE SCI.-RES. DES. INST. NITROGEN IND. ORG. SYN. PROD., MOSCOW, USSR.

UNCLASSIFIED

USSR

ARKHANGEL'SKIY, Ye. A., ZNAMENSKIY, A. A., LUKOMSKIY, Yu. A.,
CHERNYSHEV, E. P.

"Modeling on Analog Computers"

Modelirovaniye na Analogovyykh Vychislitel'nykh Mashinakh [English Version Above], Leningrad, Energiya Press, 1972, 208 pages (Translated from Referativnyy Zhurnal, Kibernetika, No 1, 1973, Abstract No 1 V815 A).

Translation: This book was designed by the authors to be a brief manuscript, to reflect not so much the structure of an analog computer as the peculiarities and various methods of modeling of a broad range of scientific and technical problems on analog machines.

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USSR

UDC 621.372.57.01

ZNAMENSKIY, A. YE., TEPLYUK, I.N.

"Active RC-Filters"

Aktivnyye RC-fil'try, Moscow, "Svyaz," 1970, 280 pp, 1 r. 31 k. Reviewed by V. Listov and V. Tyurin in "Elektrosvyaz'," 1971, No 5, p 79 (from RZh--Radiotekhnika, No 9, Sept 1971, Abstract No 9A120-RETS)

Translation: A book on active RC-filters is reviewed. It is noted that the use of RC-circuits at low frequencies up to 10 MHz has the most promise. A synthesis of filters is conducted with respect to the operating parameters in the same way as this was done in the case of LC-filters. Four methods of synthesis of RC-filters are considered: with the aid of single amplifiers, converters, gyrators, and operational amplifiers. The limitations are shown with respect to the arrangement of the poles, in the case of both low-frequency filters and band-pass filters. The conditions are shown during which Chebyshev approximations cannot be realized. In the book there are many examples of computations, accessory tables, and graphs. A shortcoming is the imperfect use of the advantages of mechanical design of filters and the absence of information of digital filters. The book is a valuable textbook for engineers of communication apparatus and scientific workers in the field of the theory of electrical circuits. L. Ya.

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USSR

UDC: 621.372.54

ZNAMENSKIY, A. Ye., TEPLYUK, I. N.

"Active RC Filters"

Aktivnyye RC-fil'try (cf. English above), Moscow, "Svyaz'", 1970, 280 pp, ill. 1 r. 36 k. (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A188 K)

Translation: The book deals with a theory and method of calculating RC filters on the basis of utilizing the theory of the best approximation of functions (Chebyshev polynomials and Butterworth polynomials, Chebyshev and Zolotarev fractions). Computational examples are given. 137 illustrations, 72 tables, bibliography of 59 titles. Resumé.

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UDC 532.74

USSR

VIKTORINA, M. M., DERYAGIN, B. V., Corresponding Member of the USSR Academy of Sciences, YERSHOVA, I. G., ZNAMENSKIY, R. V., and CHURAYEV, N. V.

"Paramagnetism of Modified Water (Water II)"

Moscow, Doklady Akademii Nauk SSSR, Vol 197, No 1, March-April 1971, pp 114-116

Abstract: This article contains a description of a microcapillary procedure for measuring the magnetic susceptibility of volumes of liquid on the order of 10^{-6} to 10^{-7} cm³ which is a modification of the well-known Gouy method. The procedure was checked by measuring the magnetic susceptibility of a column of benzene; ordinary water (bidistillate) was used as the standard liquid. Analogous measurements were then made for modified water. On the basis of the preliminary experiments only a qualitative conclusion of paramagnetism of the anomalous component could be drawn. It was visually apparent that upon inclusion of the magnetic field, the columns of sufficiently concentrated modified water and the columns of ordinary water shifted to different sides in the capillaries. Results of one of the last series of experiments, in which some quantitative estimates could be made, are presented in a table. For columns of modified water with a low content of

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USSR

VIKTORINA, M. M., et al, Doklady Akademii Nauk SSSR, Vol 197, No 1, March-April 1971, pp 114-116

anomalous component, the magnetic susceptibility was greater than $-0.38 \cdot 10^{-6}$. The mechanism of the effect of the anomalous component is discussed in detail, and a formula is derived for using the presented data to make a rough estimate of the magnetic susceptibility of pure anomalous component (water II). Using this formula, a value of $7 \cdot 10^{-6}$ was obtained.

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- 95 -

USSR

UDC 620.193.27

ZNAIENSKIY, G. N., 'TSISAR', I. A., and KRIVONOS, V. S., Kiyev Polytechnic Institute, Vinnitsa Branch

"Special Features of Electrochemical Characteristics of Stainless Steels and AMG-61 Aluminum Alloy in Sea Water"

Moscow, Zashchita Metallov, Vol. 7, No 6, Nov-Dec 71, pp 715-717

Abstract: Effects of surface conditions, holding time in sea water, moving speed, and water temperature on the electrochemical characteristics of 1Kh18N9T, 1Kh14ND, and 1Kh20N5G12BA stainless steels and AMG-61 aluminum alloy were investigated in natural Black Sea water under laboratory conditions and at sea. The polarization characteristics of stainless steels and the AMG-61 alloy differed considerably: the cathode polarizability at sea was lower but the limiting current of oxygen diffusion and the breakthrough potential of the protecting layer, which is the most sensitive electrochemical characteristic, were higher than under laboratory conditions. Investigations at sea revealed for stainless steel a refining of the corrosion potential in winter and a shift to the negative side in summer, and for the AMG-61 alloy - a continuous shift to the positive side. Values of the breakthrough potential of the protective layer of stainless steels and the AMG-61 alloy are discussed and compared with data from other corrosion tests. Two illustr., two tables, eight biblio. refs.

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USSR

UDC 535.312.1.08

ZNAMENSKIY, V. B.

"Reflectometer With Normal Incidence of Light"

Leningrad, Optiko-mekhanicheskaya promyshlennost', No. 7, Jul 71, pp 29-30

Abstract: A new method of measuring the coefficients of reflection of mirror surfaces under normal incidence of light is discussed. It is noted that the coefficients of reflection in the majority of existing instruments is measured at angles considerably different from normal incidence on the reflecting surface. Such measurement techniques in many cases lead to an inaccurate representation of the reflected capacity of dielectric multilayer interference coatings when they are used at normal or close to normal incidence of light. An optical diagram and photograph of the reflectometer are shown. Measurements of the coefficients of reflection of coatings with values of 30-99.2% were made on the reflectometer both in monochromatic and in white light. The average relative error of the measurements of the reflective capacities of the coatings with coefficients of reflection from 30 to 60% was close to 1%. It was approximately 0.3% for more highly reflecting mirrors.

1/1

Metrology, Surveying, Mapping

USSR

UDC 772.99.004:778.142

ZNAMENSKIY, V. B., KUKAROV, G. V., STRUKOV, V. S.

"Study of Possibilities of Using Holography to Increase the Information Packing Density of Microfilm"

Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 17, No 6, Nov-Dec 72, pp 419-422.

Abstract: This work presents an experimental study of the maximum packing density of information of varying degrees of complexity on microfilm (letters and text). The method of successive and simultaneous superimposition of holograms and various methods of production of reduced-dimension holograms were used. The dependence of the maximum number of holograms of an individual letter and of a segment of text on letter height is determined: the number of holograms decreases with decreasing letter height. When a spherical converging signal wave is used, the readability of the restored image of a microfilm text is good when the area occupied by the hologram is 1/16th the area of the initial microfilm. An additional hologram can be superimposed over each of these reduced-size holograms with only a slight reduction in text readability. The compacting of information achieved corresponds to a 45-times reduction in dimensions of the original text, letter

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USSR

UDC 772.99.004:778.142

ZNAMENSKIY, V. B., KUKAROV, G. V., STRUKOV, V. S., Moscow, Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii, Vol 17, No 6, Nov-Dec 72, pp 419-422.

height 1.7 mm, with satisfactory readability.

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- 108 -

USSR

UDC: 621.391.81

ZNYAKAYEV, R. G.

"Approximate Synthesis of Optimum Filters (in the Sense of a Maximum Signal-to-Noise Power Ratio)"

Tr. Sib. fiz.-tekhn. in-ta pri Tomsk. un-te (Works of the Siberian Physico-technical Institute Associated With Tomsk University), 1970, vyp. 52, pp 209-211 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A64)

Translation: Synthesis of optimum filters is quite feasible if the pulse transfer function has a simple form. In cases where the pulse transfer function has a complex form and where this complicates synthesis, instead of using optimum filters, devices which have characteristics close to those of optimum filters can be used. A block diagram is proposed for such a device made up of delay modules and an operational amplifier. It is shown that the voltage across the output of the device has a value close to the voltage across the output of an optimum filter, the difference decreasing with an increase in the branches from the delay line. Ye. L.

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USSR

UDC 621.382.3

PUNDUR, P.A., AKMENTYN'SH, YA.YA., BERZIN'SH, A.A., DANE, B.YA., ZOBENS, V.YA.,
KOKORISH, YE. YU., KURMIT, YA. A.

"Silicon Low-Noise High-Frequency Unencapsulated Transistors"

Elektron. tekhnika. Nauchno-tekhn. sb. Mikroelektronika (Electronic Technology.
Scientific-Technical Collection. Microelectronics), 1970, Issue 2(25), pp 81-
86 (from RZh--Elektronika i yeye primeneniye, No 4, April 1971, Abstract No
4B245)

Translation: The construction, technology, and principal parameters are des-
cribed of silicon planar unencapsulated low-noise high-frequency
n-p-n type transistors for hybrid circuits.

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USSR

UDC 533.6.071

ZOBEYDA, A. I., KIREYEV, V. T.

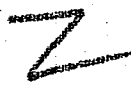
"'Internal' Compression Shocks Caused by Nonequilibrium of Chemical Reactions"

Tr. Sektsii po chisl. metodam v gaz. dinamike 2-go Mezhdunar. kollokviuma po gazodinamike vzryva i reagiruyushchikh sistem, 1969. T. 3 (Works of the Section on Numerical Methods in Gasdynamics of the 2nd International Colloquium on the Gasdynamics of an Explosion and Reacting Systems, 1969. Vol. 3), Moscow, 1971, pp 50-66 (from RZh-Aviatsionnyye i raketnyye dvigateli, No 5, May 72, Abstract No 5.34.159)

Translation: The one-dimensional nonstationary flow ahead of the piston in a gas mixture reacting according to the Arrhenius law with the release of heat is studied using computer calculations (the characteristics method). The nature of the rise and subsequent motion of the "internal" compression shock formed due to the nonuniformity of the chemical reaction behind the shock wave caused by the motion of the piston was examined. Calculations of the flow behind an ignition shock wave are presented for several values of the magnitude of the thermal effect. 10 ill., 4 ref. Resume.

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1/2 009 UNCLASSIFIED PROCESSING DATE 10900,70
TITLE--MECHANISM OF VOLCANIC EARTHQUAKES: 1964 ERUPTION OF SHEVELUCH -U-
AUTHOR--ZOBIN, V.M. 
COUNTRY OF INFO--USSR
SOURCE--MUSCOW, IZVESTIYA AKADEMII NAUK SSSR, FIZIKA ZEMLI, NO 3, 1970, PP
31-36
DATE PUBLISHED--70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--VOLCANIC ERUPTION, EARTHQUAKE, SEISMOLOGIC STATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1991/0731 STEP NO--UR/0387/70/000/003/0031/0036
CIRC ACCESSION NO--AP0110457
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0110457

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STUDY WAS MADE OF THE MECHANISM OF VOLCANIC EARTHQUAKES OF SHEVELUCH VOLCANO (NOVEMBER 1964). THIS KAMCHATKAN ERUPTION WAS ONE OF THE STRONGEST IN THE 20TH CENTURY. IT WAS PRECEDED BY A PROLONGED AND INTENSIVE SEISMIC PREPARATION. THE STRONGEST OF THESE EARTHQUAKES HAD A MAGNITUDE OF 5.5. SEISMIC PREPARATION BEGAN IN JANUARY 1964. TWO PRINCIPAL SWARMS OF EARTHQUAKES COULD BE DISCRIMINATED: IN APRIL-MAY AND OCTOBER, NOVEMBER. THE STRONGEST EARTHQUAKES OCCURRED SEVERAL HOURS PRIOR TO THE ERUPTION. THE ENTIRE ERUPTION LASTED ABOUT 1 HOUR. THE STUDY WAS BASED ON DATA ON THE SIGNS OF THE FIRST ARRIVALS OF LONGITUDINAL WAVES AT THE SEISMIC STATIONS OF KAMCHATKA AND OTHER SOVIET AND FOREIGN SEISMIC STATIONS. DATA FROM 29 STATIONS WERE USED. FOR THE FIRST TIME IT WAS POSSIBLE TO DETERMINE INSTRUMENTALLY THE DYNAMIC PARAMETERS OF THE FOCUS TO VOLCANIC EARTHQUAKES. SOME OF THE STRONGEST OF THESE VOLCANIC EARTHQUAKES HAD A FOCUS OF THE DISPLACEMENT TYPE, ESSENTIALLY DIFFERING IN NO WAY FROM THE FOCI OF TECTONIC EARTHQUAKES OF KAMCHATKA. THE PLANES OF RUPTURE OF THESE EARTHQUAKES ARE CLOSE TO VERTICAL AND ONE OF THE TWO POSSIBLE PLANES COINCIDES IN AZIMUTH WITH THE ORIENTATION OF THE THRUST OF EJECTA FROM THE DIRECTED EXPLOSION OF SHEVELUCH VOLCANO. THE PLANE OF MOVEMENTS AT THE FOCI OF THE WEAK VOLCANIC EARTHQUAKES DID NOT REMAIN CONSTANT DURING THE COURSE OF DEVELOPMENT OF SWARM ACTIVITY.

FACILITY: VOLCANOLOGY INSTITUTE, SIBERIAN DEPARTMENT ACADEMY OF SCIENCES USSR.

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USSR

UDC 510

ZOBKOVA, K. V.

"On Teaching a General Mathematics Course in Computer Programmer Schools"

Uch. zap. Leningr. gos. ped. in-t im. A. I. Gertsena (Scientific Notes of Leningrad State Pedagogical Institute imeni A. I. Gertsen), 1971, 33⁴, pp 106-119 (from RZh-Matematika, No 2, Feb 72, Abstract No 2A51)

Translation: The article gives an analysis of the program of a general mathematics course from the standpoint of the possibility of presenting it in the secondary schools that train computer programmers. The textbooks used by students in these schools are described and various forms of lesson organization in these schools are considered.

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USSR

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SOLYAKOV, S. P., BELKIN, G. I., TATAKIN, A. N., NACHAYEV, V. M., ZOBIN, S. I.,
ZYEV, N. M., IVANOV, A. B., VUKOLOV, V. V., SVALOV, G. N., DEVIATKIN, V. N.,
ALEKSANDROV, V. A., GRIBOV, V. I.

"Method of Processing Slimes from Electrolytic Production of Magnesium"

Author's Certificate No 278126, filed 11/02/69, published 18/11/70. (Translated from Referativnyy Zhurnal Metallurgiya, No 2, 1972, Abstract No 26185).

Translation: In order to use the slime for production of Mg, it is fed from the electrolyzers to chlorinators together with the depleted $MgCl_2$ electrolyte in the form of a pulp containing 1-10% MgO and 5-25% $MgCl_2$. The chlorinators also receive the Cl-Mg raw material and Cl_2 , after which the electrolyte, enriched with $MgCl_2$, is fed to the electrolyzers.

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1/2 011 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--FORMATION CONDITIONS FOR LEAD AND CADMIUM MOLYBDATE -U-
AUTHOR--(02)-ZOBNINA, A.N., KISLYAKOV, I.P.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(2), 143-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--MOLYBDATE, LEAD COMPOUND, CADMIUM COMPOUND, CHEMICAL
PRODUCTION, DEHYDRATION, CADMIUM CHLORIDE, NITRATE, SOLUTION ACIDITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3005/0843 STEP NO--UR/0153/70/013/002/0143/0147
CIRC ACCESSION NO--AT0132933
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0132933

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY MIXING SOLNS. OF PB(NO SUB3) SUB2 AND CDCL SUB2 WITH A SOLN. OF NA SUB2 MOO SUB4 IN APPROX. EQUIMOLAR AMTS. AT PH 4.2-5.5, NEUTRAL SALTS OF THE COMPN. MMDO SUB4.XH SUB2 O ARE FORMED. THESE SALTS ARE DEHYDRATED AT 105DEGREES AND M. 1070 AND 1180DEGREES. WITH VARYING CONCNS. OF PB OR CD, BASIC MOLYBDATES ARE FORMED AT HIGHER PH VALUES. WITH PB, 9PBMOO SUB4.PB(OH) SUB2.XH SUB2 O IS FORMED AP PH GREATERH THAN 5.6 WITH INSUFFICIENT PB IN SOLN., AND 3PBMOO SUB4.PB(OH) SUB2.XHS UB2 O IS FORMED WITH EXCESS PB. 9PBMOO SUB4.PB(OH) SUB2.XH SUB2 O IS DEHYDRATED AT LESS THAN 105DEGREES, AND DECOMP. AT 332DEGREES. WITH CD, 4CDMOO SUB4.CO(OH) SUB2. X H SUB2 O IS FORMED AT PH GREATER THAN 6. THIS SALT DECOMPS. AT 355DEGREES. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

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Acc. Nr: **AP0044189**

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 2, pp **67-72**

ALLERGEN FRACTIONS OF BACTERIA OF INTESTINAL
FAMILY

REPORT I

IMMUNOCHEMICAL AND ALLERGOLOGIC CHARACTERISTICS
OF THE PREPARATIONS OBTAINED
BY ANDO — VERZHIKOVSKY'S METHOD FROM VARIOUS
STRAINS OF THE SAME SPECIES (ENTEROBACTER CLOACAE)

K. S. Zobnina, Mayanskiy, A. N.

Experiments were performed on sensitized guinea pigs. An allergen activity of an extracellular fraction, isolated by the method of Ando — Verzhikovskiy from the broth culture filters of bacterial species Enterobacter cloacae was demonstrated. The preparations produced from 10 strains of Ent. cloacae, which belonged to the same and different O—K-types, had an affiliated immunochemical structure and gave cross skin-allergic reactions. From 13 to 15 antigenic components were revealed immunophoretically in the Ando — Verzhikovskiy's fraction. A supposition was put forward on the presence of a complicated set of allergy-producing components in the microorganisms.

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USSR

UDC: 621.327.4

Andreyev, S. I., Candidate of Technical Sciences, Baykov, O. G., Dashyk, P. N.,
Candidate of Technical Sciences, Zobov, Ye. A., and Sinitsyn, N. V.

"A Gigawatt Xenon Flash Lamp"

Optiko-Mekhanicheskaya Promyshlennost', No 5, 1972, pp 19-21.

Abstract: This work presents the results of testing of a flash lamp with an internal quartz tube diameter of 60 mm, wall thickness 3 mm, distance between electrodes 900 mm, filled with xenon to the pressure of 20 mm/Hg. The energy of the lamp is 10^5 j, current transmission time is 10^{-4} sec. A temperature of 2000°K is reached; the radiation spectrum is continuous. Data are presented on the distribution of radiation energy through the spectrum. The discharge is performed under conditions such that the magnetic pressure on the plasma column at the current maximum is near the gas kinetic pressure.

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USSR

UDC: 542.91 - 547.781

2
ARBUZOV, B.A., ZOBQVA, H.H., and BALABANOVA, F.B., Kazan' State University imeni V.I. Ul'yanov-Lenin, Kazan, Ministry of Higher and Secondary Specialized Education RSFSR

"Synthesis of 3-Benzoyl- and 3-Trichloroacetyl-2-imidazolidinones"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 2, Feb 70, pp 447-448

Abstract: Ethylenimine reacts energetically with benzoyl isocyanate and trichloroacetyl isocyanate at 0° in the absence of a catalyst to give the corresponding 3-benzoyl- and 3-trichloroacetyl-2-imidazolidinones. The composition and structure of the resultant adducts were confirmed by data from elementary analysis and IR spectra and by chemical transformations.

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1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--MODIFICATIONS IN EXTERNAL RESPIRATION AND BLOOD GAS CONTENT IN
PATIENTS WITH AN OPEN ATRIOVENTRICULAR CANAL -U-
AUTHOR-(02)-ZODELAVA, Z.L., MEYTINA, R.A.
COUNTRY OF INFO--USSR
SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIYA, 1970, NR 3, PP
74-77
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--RESPIRATION, BLOOD CHEMISTRY, LUNG, HYPERTENSION, HEART
DISEASE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3002/1885 STEP NO--UR/0481/70/000/003/0074/0077
CIRC ACCESSION NO--AP0129243
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129243

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXTERNAL RESPIRATION AND BLOOD GAS CONTENT WERE STUDIED IN 88 PATIENTS WITH AN OPEN ATRIOVENTRICULAR CANAL DEPENDING ON THE FORM OF A DEFECT AND THE DEGREE OF PULMONARY HYPERTENSION. ALL GROUPS HAVE MARKED HYPERVOLEMIA, DUE TO BLOOD SHUNT FROM THE GREATER TO THE SMALLER BLOOD CIRCUIT, MAINLY THROUGH A DEFECT OF THE INTRAARTICULAR SEPTUM. IN HIGH PULMONARY HYPERTENSION REVERSE BLOOD SHUNT FROM RIGHT TO LEFT TAKES PLACE, THROUGH THE DEFECT OF THE INTRAARTICULAR SEPTUM AND THE COMMON ATRIOVENTRICULAR CANAL. MODIFICATIONS OF EXTERNAL RESPIRATION AT REST AND AFTER STRESS (DECREASE OF RESPIRATORY VITAL VOLUME, MINUTE VOLUME INCREASE, ETC) UPSET OF ACID BASE BALANCE (DECOMPENSATED RESPIRATORY ALCALOSIS) FOLLOW HYPERVOLEMIA AND HYPERTENSION OF THE PULMONARY BLOODFLOW. FACILITY: LABGRATORIYA FUNKSIONAL'NOY DIAGNOSTIKI I OTDELENIYE VROZHDENNYKH POROKOV SERDTSA INSTITUTA SERDECHNO-SOSUDISTOY KHIRURGII IM. A. N. BAKULEVA, AMN SSSR, MOSKVA.

UNCLASSIFIED

USSR

UDC 51:621.391

ZOGRABYAN, E. P.

"One Method of Constructing Linear Codes"

Tr. Vychisl. Tsentra AN ArmSSR i Yerevan Un-ta, [Works of Computer Center of Academy of Sciences, Armenian SSR and Yerevan University], No 6, 1970, pp 88-92, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. SV485 by the author).

Translation: The boundary of redundancy of linear codes is established, allowing correction of errors generated by a fixed set of channel noise from a rather broad class of sets of noise. A method is described for constructing a testing matrix for these codes. It is proven that in a certain subclass of sets of noise, the codes constructed by the method described are optimal.